

REMARKS

Applicant has carefully reviewed the office action with mailing date July 12, 2007. Favorable reconsideration and allowance is hereby solicited.

Applicant herein amends claims 1 - 2, 4 – 8, 9 – 16, 18 – 19, 21, 24 – 28, 32 – 34, 36 – 37, 40 – 41, 43 – 44, and 46. Support for the amendments is found in the originally filed specification and claims. No new matter is added by these amendments. Claims 1 – 47 remain in the case.

CLAIM REJECTIONS – 35 USC §112

Claims 18, 19 and 46 – 47 stand rejected under 35 U.S.C. 112, second paragraph as being indefinite. Firstly, the flow chart of Fig. 4, and associated text, clarifies and enables signaling from a combiner to a power source via the output port of the power source. In particular, during a classification phase, in which a specified voltage is supplied from the power source towards the combiner, the combiner impresses either a single current flow range, or a plurality of current flow ranges indicative that the combiner is operative to produce a high power output.

In the interest of advancing prosecution, Claim 1, upon which claims 18 and 19 ultimately depend, has been amended to recite that power is supplied from a first power source and a second power source. Thus, the signaling of the power source may be accomplished, without limitation, as described in Fig. 4 and associated text, and as claimed in dependent claim 19, or by another means as claimed in claim 18.

Claim 46, as amended, recites the step of signaling the source of the received power, i.e. either the source of the first power and/or the source of the second power. This may be accomplished, in one embodiment, as recited in claim 47, by changing the classification as described in Fig. 4 and associated text.

CLAIM OBJECTIONS – INFORMALITIES

Claim 46, has been amended to remove the informality of the repeated words "at least one of".

CLAIM REJECTIONS 35 USC 103

Applicant is aware of the obligation under 37 CFR 1.56, and states that the claims were and are commonly owned.

A. Claims 1 – 10, 12, 14 – 16, 18 – 20, 23, 27, 30 – 31, 35 – 36, 43 and 46 – 47 stand rejected under 35 USC 103(a) as being unpatentable over Admitted Prior Art (APA) and Barnes et al (US 2005/0040785). APA describes powering of a powered device from a single power source, located alternatively in the hub or a midspan. Communication cabling connects the hub and the powered device, optionally via the midspan, and presents a single round trip path between the single powered device and the single power sourcing equipment. The communication cabling is arranged so that a single power sourcing equipment may be attached to either one of two sets of twisted wire pairs.

Barnes teaches an A/C-D/C-F/C power system that can accept power from a number of alternative sources, and deliver power to an application device consistent with device requirements. Barnes does not combine power from a plurality of sources to achieve a high power output formed from the plurality of combined sources, but instead selects one of the power sources to supply power, and conditions the power from the selected source in accordance with the specifications of the application device. "the power combiner and conditioner 140 detects whether input signals from any of the power sources exist, and follows a procedure (discusses further herein with reference to Fig. 2) to determine *which power source* is to supply the power signal to application device." [Par. 0027]

Independent claim 1, as amended, recites a first and a second power source, each connected to supply power over a unique set of wire pairs, in contrast to APA in which only a single power source is provided and arranged to deliver power over a single set of wire pairs. Power from the first and second power sources are combined into a single combined high power output. Thus, the combined high power output of claim 1 is not selected from one of the power sources, as taught by Barnes. Instead the combined power output represents a *combination* of the first and second powers, typically a sum thereof, as illustrated in Fig. 3a – 3e. The received powers are combined to a single high power, and not alternately selected as taught by Barnes.

Thus, neither Barnes nor APA teach combining a plurality of powers, each received over a distinct communication cabling path, into a single combined high power. The combination of APA and Barnes can not teach what neither alone teaches. The prior art references must teach or suggest *all the claimed limitations*. *In re Royka*, 490 F.2d 981,180 USPQ 580 (CCPA 1974) and MPEP 2143.

Claim 1 is thus deemed patentable over the combination of Barnes and APA. Claims 2 – 10, 12, 14 – 16, 18 – 20 and 23, are patentable at least for depending on patentable claim 1.

Independent claim 27, as amended, recites a circuitry arranged to combine a received first power signal and a received second power signal to produce a combined high power signal. The first and second power signals are received over distinct sets of wire pairs. A control circuit is operative to sense the combined high power signal, and supply the combined high power signal to a powered device responsive thereto.

The above is in contrast to APA in which only a single power source is provided and arranged to deliver power over a single set of wire pairs. Power from the first and second power sources of claim 27 are combined into a single combined high power output in contrast to Barnes in which the power output is selected from one of the power sources. Instead the combined power output represents a *combination* of the first and second powers, typically a sum thereof, as illustrated in Fig. 3a – 3e. The received powers are combined to a single high power, and not alternately selected as taught by Barnes.

Thus, neither Barnes nor APA teach combining a plurality of powers, each received over a distinct communication cabling path, into a single combined high power. The combination of APA and Barnes can not teach what neither alone teaches. The prior art references must teach or suggest *all the claimed limitations*. *In re Royka*, 490 F.2d 981,180 USPQ 580 (CCPA 1974) and MPEP 2143.

Claim 27 is thus deemed patentable over the combination of Barnes and APA. Claims 30 – 31 and 35 - 36 are patentable at least for depending on patentable claim 27.

Independent claim 43, as amended, recites receiving a first power signal and a second power signal over distinct sets of wire pairs, combining the received power signals to

produce a combined high power signal, sensing the success of the combining, and enabling a high power output comprising the first and second power signal responsive to the sensing.

The above is in contrast to APA in which only a single power signal is received at the powered device over a single set of wire pairs. Power from the first and second power signals are combined into a single combined high power output in contrast to Barnes in which the power output is selected from one of the power sources. Instead the combined power output represents a *combination* of the first and second powers, typically a sum thereof, as illustrated in Fig. 3a – 3e. The received powers are combined to a single high power, and not alternately selected as taught by Barnes. Finally, the output is enabled responsive to sensing the success of the combining, which is taught by neither APA nor Barnes.

The combination of APA and Barnes can not teach what neither alone teaches. The prior art references must teach or suggest *all the claimed limitations*. *In re Royka*, 490 F.2d 981,180 USPQ 580 (CCPA 1974) and MPEP 2143.

Claim 43 is thus deemed patentable over the combination of Barnes and APA. Claims 46 - 47 are patentable at least for depending on patentable claim 43.

B. Claims 11, 13, 21, 22, 28 and 29 stand rejected under 35 USC 103(a) as being unpatentable over APA and Barnes in view of Elkayam (US 2003/0099076).

Claims 11, 13, 21 and 28 have been amended to be definite as referring to a specific published standard, namely IEEE802.3af-2003.

Claims 11, 13, 21 and 22 are patentable at least for depending on patentable claim 1. Claims 28 and 29 are patentable at least for depending on patentable claim 27.

C. Claim 17 stands rejected under 35 USC 103(a) as being unpatentable over APA and Barnes in view of Parsi et al (US 6,856,629).

Claim 17 is patentable at least for depending on patentable claim 1.

D. Claims 24 - 26 and 32 - 34 stand rejected under 35 USC 103(a) as being unpatentable over APA, Barnes and Elkayam in view of Orenstien et al (US 2003/0126377).

Claims 24 - 26 are patentable at least for depending on patentable claim 1. Claims 32 - 34 are patentable at least for depending on patentable claim 27.

Additionally, claims 25 – 26 and 32 - 34 are further patentable in that the mode of operation of the load is dependent on the combiner, and not based on the needs of the load, such as a processor, as taught by Orenstein.

E. Claims 37 – 39 stand rejected under 35 USC 103(a) as being unpatentable over APA and Barnes in view of Germagian et al (US 6,894,457)

Claims 37 – 39 are patentable at least for depending on patentable claim 27. Additionally, Germagian exhibits a single power adapter connected to a power distributor. The power distributor of Germagian does not combine a plurality of power signals to create a single combined power output as recited in the subject claims, instead Germagian splits a single received power into multiple voltage outputs. Germagian fails to teach combining received power signals, and thus fails to teach or suggest a first DC/DC converter associated with a first power input and a second DC/DC converter associated with a second power input. Germagian simply does not have a plurality of power inputs to be combined, however arranged.

F. Claim 40 stands rejected under 35 USC 103(a) as being unpatentable over APA, Barnes et al (US 2005/0040785) and Germagian in view of Charych (US 2004/0080962).

Claim 40 is patentable at least for ultimately depending on patentable claim 27. Furthermore, Charych does not teach a circuitry arrangement to combine a plurality of power signals via separate associated PWM/resonance controllers.

G. Claims 41 and 42 stand rejected under 35 USC 103(a) as being unpatentable over APA and Barnes in view of Larner (US 4,028,559).

Claims 41 and 42 are patentable at least for depending on patentable claim 27. Additionally, Larner does not combine a plurality of power source signals, only a single fixed current signal I is supplied.

H. Applicant thanks the examiner for accepting the patentability of claims 44 and 45.

CONCLUSION

In view of the foregoing, allowance of all pending claims (i.e., Claims 1 – 47) is respectfully requested.

The Examiner is encouraged to contact Applicant's undersigned agent by telephone if it would in any way aid in the advancement of this application to issue.

Respectfully submitted,

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/Simon Kahn/
Simon Mark Kahn
Reg. No. 48,249
Director of Intellectual Property
Microsemi Corp. – AMSG Ltd.

Tel: 1-703-486-1150

Fax: 1-703-892-4510